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L29: Entry 3 of 85

File: PGPB

Jan 22, 2004

DOCUMENT-IDENTIFIER: US 20040014083 A1

TITLE: Detection of heteroduplex polynucleotides using mutant nucleic acid repair enzymes with attenuated catalytic activity

Detail Description Paragraph:

[0709] Another technique that has gained popularity recently is fluorescence polarization or anisotropy (Jameson et al., Methods Enzymol., 246:283-300 (1995); Lundblad et al., Mol. Endocrinol., 10:607-612 (1996); Checovich et al., Nature, 375:254-256 (1995); Levine et al., Anal. Biochem., 247:83-88 (1997); Jolley, J. Biomol. Screening, 1:33-38 (1996); Schade et al., Anal. Biochem., 243:1-7 (1996); Lynch et al., Anal. Biochem., 247:77-82 (1997)). When fluorescently labeled molecules in solution are illuminated with plane-polarized light, the emitted fluorescence will be in the same plane provided the molecules remain stationary. Since all molecules tumble as a result of collisional motion, depolarization phenomenon is proportional to the rotational relaxation time (τ) of the molecule, which is defined by the expression $3\tau \cdot \eta / RT$. At constant viscosity (η) and temperature (T) of the solution, polarization is directly proportional to the molecular volume (V) (R is the universal gas constant). Hence, changes in molecular volume or molecular weight due to binding interactions can be detected as a change in polarization. For example, the binding of a fluorescently labeled ligand to its receptor will result in significant changes in measured fluorescence polarization values for the ligand. Once again, the measurements can be made in a "mix and measure" mode without physical separation of the bound and free ligands. The polarization measurements are relatively insensitive to fluctuations in fluorescence intensity when working in solutions with moderate optical intensity.

RET/4/57/26/11

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L29: Entry 4 of 85

File: PGPB

Jan 15, 2004

DOCUMENT-IDENTIFIER: US 20040010197 A1

TITLE: Multi-modal optical tissue diagnostic system

Detail Description Paragraph:

[0050] An alternative to the phase change method discussed above to determine fluorescence lifetime is the measurement of fluorescence depolarization or anisotropy. The instrumentation used is similar to that used for reflectance depolarization. Indeed the same instrument can readily be used for measurement based on both principles. In clear solution (where photons are not depolarized due to scattering) the measurement of fluorescence polarization anisotropy provides an estimate of the fluorescence lifetime of the fluorophores being interrogated. This is represented by the Perrin Equation (Perrin et. al.) which relates fluorescence Anisotropy (r) to Lifetime (.tau.) $1 - r = 1 + \text{Equation 1}$

WEST Search History

DATE: Monday, March 15, 2004

Hide?	<u>Set Name</u>	<u>Query</u>	<u>Hit Count</u>
	<i>DB=PGPB,USPT,EPAB,DWPI; PLUR=YES; OP=ADJ</i>		
<input type="checkbox"/>	L1	fluorescence polarization anisotropy	85
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<input type="checkbox"/>	L2	Densham-D\$.in.	9
<input type="checkbox"/>	L3	(sequenc\$ near polynucleotide) same (enzyme or polymerase)	4284
<input type="checkbox"/>	L4	(sequenc\$ near polynucleotide) same (enzyme or helicase or primase)	2435
<input type="checkbox"/>	L5	L3 and enzyme activity	1108
<input type="checkbox"/>	L6	L4 and enzyme activity	779
<input type="checkbox"/>	L7	(L5 or L6) and ((conformation\$ change) same enzyme)	23
<input type="checkbox"/>	L8	L7 and (solid support)	16
<input type="checkbox"/>	L9	L7 and ((FRET near Pair) or (energy acceptor and energy donor) or (acceptor and donor))	14
<input type="checkbox"/>	L10	(L7 or L8 or L9) and confocal microscopy	3
<input type="checkbox"/>	L11	(L7 or L8 or L9) and fluorescence imag\$	0
<input type="checkbox"/>	L12	(L7 or L8 or L9) and polarization	2
<input type="checkbox"/>	L13	fluorescent imaging	530
<input type="checkbox"/>	L14	(L7 or L8 or L9) and fluorescen\$ imag\$	2
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<input type="checkbox"/>	L16	target same (enzyme or polymerase or helicase or primase)	19917
<input type="checkbox"/>	L17	L16 and (conformational change near enzyme)	62
<input type="checkbox"/>	L18	L17 and (label)	29
<input type="checkbox"/>	L19	L17 and ((FRET near pair) or (acceptor same donor))	6
<input type="checkbox"/>	L20	L19 and (solid support)	2
<input type="checkbox"/>	L21	L18 and solid support	16
<input type="checkbox"/>	L22	(L18 or L19) and (confocal microscopy)	0
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<input type="checkbox"/>	L24	L17 and polarization	34
<input type="checkbox"/>	L25	L17 and fluorescen\$ imag\$	0
<input type="checkbox"/>	L26	(fluorescent or fluorescence) near imaging	1954
	L27	L26 and L16	168



L28 L27 and L15

6



L29 fluorescence polarization anisotropy

85

END OF SEARCH HISTORY